WHAT IS CLAIMED IS:

1. A device comprising:

a first liquid-containment feature having a first depth;

a second liquid-containment feature having a second depth;

a valve separating the first liquid-containment feature from the second liquid-containment feature and capable of being opened to provide a fluid communication between the first liquid-containment feature and the second liquid-containment feature, the valve including a substrate, a cover layer, and a displaceable adhesion material between the substrate and the cover layer; and

a recess arranged adjacent the valve, adjacent the first liquid-containment feature, having a third depth and being capable of receiving the displaceable adhesion material upon opening of the valve.

2. The device of claim 1, wherein the third depth is less than the first depth.

3. The device of claim 1, further comprising a second recess adjacent the valve, adjacent the second liquid-containment feature, having a fourth depth and being capable of receiving the displaceable adhesion material upon opening of the valve.

4. The device of claim 3, wherein the fourth depth is less than the second depth.

5. The device of claim 3, wherein the third depth and the fourth depth are about the same depth.

6. The device of claim 1, wherein the displaceable adhesion material is at least one of a resin, glue, adhesive, epoxy, silicone, urethane, wax, isocyanate, pressure sensitive adhesive, hot melt adhesive, or a combination thereof.

7. The device of claim 1, wherein the displaceable adhesion material is a hot melt adhesive.

8. The device of claim 1, wherein the third depth is from about five percent to about 30 percent of the first depth.

9. The device of claim 1, wherein the valve is in an open state and comprises a fluid communication between the first liquid-containment feature and the second liquid-containment feature, the fluid communication has a first width, the recess has a second width, and the first width is from about two percent to about 50 percent the second width.

10. The device of claim 9, wherein the first width is from about five percent to about 20 percent of the second width.

11. A device comprising:

a substrate including;

a first surface,

a first liquid-containment feature formed in the first surface,

a second liquid-containment feature formed in the first surface,

an intermediate wall at least partially defined by the first surface and separating the first liquid-containment feature from the second liquid-containment feature, and

a trap recessed in relation to the first surface of the substrate and arranged adjacent the intermediate wall;

an elastically deformable cover sheet; and

a layer of displaceable adhesion material applied to at least a portion of a side of the cover sheet;

wherein the cover sheet is adhered to the first surface of the substrate at, at least the intermediate wall when the cover sheet is in a non-deformed state.

12. The device of claim 11, wherein the trap extends from at least one of the first and second liquid-containment features to the intermediate wall.

13. The device of claim 11, wherein the trap is capable of receiving displaced adhesion material from the layer of displaceable adhesion material when the intermediate wall is deformed.

14. The device of claim 11, further comprising a second trap that is recessed in relation to the first surface of the substrate and arranged adjacent to the intermediate wall.

15. The device of claim 11, wherein the device comprises a microfluidic device.

16. The device of claim 11, wherein the displaceable adhesion material comprises at least one of a resin, glue, adhesive, epoxy, silicone, urethane, wax, plastic, polyolefin, polymer, isocyanate, pressure sensitive adhesive, hot melt adhesive, or combination thereof.

17. The device of claim 11, wherein the displaceable adhesion material comprises a hot melt adhesive.

18. A system comprising:

a microfluidic device comprising:

a first liquid-containment feature;

a second liquid-containment feature;

a valve separating the first liquid-containment feature from the second liquid-containment feature and being capable of selectively controlling a fluid communication between the first liquid-containment feature and the second liquid-containment feature, the valve including a substrate and a cover layer, the cover layer being attached to the substrate by way of a layer of displaceable adhesion material; and

a trap adjacent the valve and capable of receiving at least a portion of the displaceable adhesion material that is displaced upon actuation of the valve;

a platen including at least one holder for holding the microfluidic device;

a first deformer; and

a drive unit capable of driving the first deformer toward the microfluidic device while the microfluidic device is positioned in the holder, and capable of applying a deforming force to the

cover sheet and the substrate to displace the adhesion material from the displaceable adhesion material layer and into the trap.

19. The system of claim 18, wherein the drive unit is capable of moving the first deformer out of contact with the cover layer, and the cover layer is capable of elastically rebounding from a deformed state faster than the substrate to form a fluid communication between the first and second liquid-containment features.

20. The system of claim 18, wherein the displaceable adhesion material comprises at least one of a resin, glue, adhesive, epoxy, silicone, urethane, wax, plastic, polyolefin, polymer, isocyanate, pressure sensitive adhesive, hot melt adhesive, or combination thereof.

21. The system of claim 18, wherein the displaceable adhesion material comprises a hot melt adhesive.

22. A method of actuating a valve, comprising:

providing a microfluidic device, the microfluidic device comprising first and second liquid-containment features, a deformable valve capable of selectively controlling fluid communication between the first liquid-containment feature and the second liquid-containment feature, and a trap recessed with respect to, and adjacent, the deformable valve, the deformable valve including a substrate, a cover layer, and a layer of displaceable adhesion material disposed in contact with and between the substrate and the cover layer;

deforming the cover layer and the substrate, with a deformer; and

forcing displaceable adhesion material displaced from the layer of displaceable adhesion material, into the trap.

23. The method of claim 22, further comprising:

retracting the deformer from contact with the cover layer; and

forming a fluid communication opening between the first and second liquid-containment features.

24. The method of claim 23, further comprising:

forcing a second deformer into contact with the cover layer across an area corresponding to a width of the fluid communication opening; and

displacing adhesion material into the fluid communication opening to close the fluid communication between the first and second liquid-containment features.

25. A microfluidic device comprising:

a substrate having a first surface, an opposite second surface, and a thickness;

an input liquid-containment feature formed in at least one of the first surface or the second surface, and having a first volume;

an overflow channel having a second volume, and in fluid communication with the input liquid-containment feature; and

a fluid capture appendix having a third volume, and in fluid communication with the overflow channel,

wherein the combination of the second volume and the third volume is from about 80% to about 120% of the first volume.

26. The microfluidic device of claim 25, further comprising an input port, and a flow distribution manifold formed in the substrate and in fluid communication with the input port, the flow distribution manifold being arranged adjacent the input liquid-containment feature.

27. The microfluidic device of claim 25, wherein the combination of the second volume and the third volume is about equal to the first volume.